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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,374

07/18/2003

Phillip E. Cochran

COH 303

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07/14/2004

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EXAMINER

YUN, JURIE

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,374

Applicant(s)

COCHRAN, PHILLIP E.

Examiner

Jurie Yun

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 23 and 24 is/are rejected.
- 7) ☒ Claim(s) 18-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/8/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, because the claim language is not meaningful because it is defined in terms of the x-ray source and the x-ray film, neither of which is positively claimed. It is suggested to claim the device in terms of means plus function language.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 14-17, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Updegrave (USPN 3,473,026).
5. With respect to claim 1, Updegrave discloses an instrument for aligning a collimated x-ray beam (via 46, "x-ray unit nose cone") relative to an x-ray film (13) and a target tooth (15) of a patient to produce dental radiographs in accordance with the bisecting-angle technique, wherein the instrument is configured to align a longitudinal axis of the x-ray beam (10) orthogonal to a bisecting plane (11) lying approximately midway between a target plane (14) defined by the target tooth and an x-ray film plane

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(12) defined by the x-ray film (column 3, lines 17-22). Updegrave discloses all of the elements of claim 1, except use for an animal patient. Updegrave discloses use for a human patient. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Updegrave dental instrument for an animal patient because they have teeth.

6. With respect to claim 14, Updegrave discloses a method of aligning an x-ray beam (10) to produce dental radiographs of a target tooth (15) of a patient in accordance with the bisecting-angle technique, comprising: placing an x-ray film (13) into the patient's mouth; attaching an alignment instrument to the x-ray film; and aligning a longitudinal axis of the x-ray beam orthogonal to a bisecting plane (11) correlated to an orientation of the alignment instrument, the bisecting plane lying approximately midway between a target plane (14) defined by the target tooth and an x-ray film plane (12) defined by the x-ray film. Updegrave discloses all of the elements of claim 14, except for use for an animal patient. Updegrave discloses use for a human patient. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Updegrave dental instrument for an animal patient because they have teeth.

7. With respect to claims 15-17, Updegrave does not specifically disclose orienting a reference portion of the alignment instrument at a known reference angle relative to the bisecting plane, and wherein aligning the longitudinal axis of the x-ray beam orthogonal to the bisecting plane includes aligning the longitudinal axis of the x-ray beam at an alignment angle relative to the reference portion and correlated to the

reference angle. However, the way the Updegrave instrument is structured ensures this to always be the case because the x-ray unit aligning rod (37) has thereon a fixed right angle (41) to ensure the aligning ring (43) is always oriented orthogonal to the bisecting plane (11). Therefore, when the reference angle is substantially a right angle, the alignment angle is substantially zero, and likewise, when the reference angle is substantially zero, the alignment angle is substantially a right angle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a reference portion of the alignment instrument at a known reference angle relative to the bisecting plane, and wherein aligning the longitudinal axis of the x-ray beam orthogonal to the bisecting plane includes aligning the longitudinal axis of the x-ray beam at an alignment angle relative to the reference portion and correlated to the reference angle, to always ensure the proper x-ray beam alignment to use in the bisecting angle technique, resulting in a clear image.

8. With respect to claim 23, Updegrave discloses (column 5, lines 8-14) orienting an x-ray head targeting ring (43) parallel to the bisecting plane (11).

9. With respect to claim 24, Updegrave discloses holding the x-ray film in place with a compressive force communicated from one or more non-target teeth through a connecting member (bite block, 16) to the x-ray film (13).

Allowable Subject Matter

10. Claims 2-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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11. Claims 18-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to disclose an instrument for aligning a collimated x-ray beam relative to an x-ray film and a target tooth of an animal patient to produce dental radiographs in accordance with the bisecting-angle technique, wherein the instrument includes a first handle selectively orientable at a first known angle relative to the x-ray film plane, and a second handle selectively orientable at a second known angle relative to the target plane, and wherein orientation of the handles is correlated to alignment of the longitudinal axis of the x-ray beam, as claimed. Prior art fails to disclose a method of aligning an x-ray beam to produce dental radiographs of a target tooth of an animal patient in accordance with the bisecting-angle technique, comprising orienting a first handle of the alignment instrument at a first known angle relative to the x-ray film plane, and orienting a second handle of the alignment instrument at a second known angle relative to the target plane, as claimed.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wiens (USPN 1,576,477) and Hallenberg (USPN 1,465,516) disclose x-ray dental film holders.


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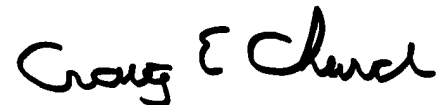
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jurie Yun whose telephone number is 571 272-2497.

The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 Jurie Yun
June 28, 2004



Craig E. Church
Primary Examiner